

ABSTRACT OF THE DISCLOSURE

A process of producing porous films having a high porosity and excellent air permeability, even though they have a small film thickness and a high strength, and a process of producing battery separators. The process of producing porous films includes the steps of melt kneading a composition comprising a polyolefin resin, a thermoplastic elastomer and a solvent; extruding and cooling the melt kneaded material into a sheet molding; rolling the sheet molding; and stretching and desolvating the rolled sheet molding, wherein the rolling is carried out under a condition such that the sheet molding after rolling has an elastic recovery rate as calculated by the following equation (1) of 20% or lower:

$$\text{Elastic recovery rate (r) (\%)} = 100 \times (t - t_0)/t_0 \quad (1)$$

wherein t_0 represents a minimum clearance of a sheet rolling section in the rolling; and t represents a sheet thickness in the elastic recovery state after pressure release.